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(54) Title: METHOD FOR DEFENCE AGAINST ATTACKS TAKING PLACE BY MEANS OF DIFFERENTIAL POWER ANALYSIS

$$\begin{array}{ccc} \mathcal{J}(C)(\mathbb{K}) & \xrightarrow{\times n} & \mathcal{J}(C)(\mathbb{K}) \\ \phi \downarrow & & \uparrow \phi^{-1} \\ \mathcal{J}(\tilde{C})(\mathbb{K}) & \xrightarrow{\times n} & \mathcal{J}(\tilde{C})(\mathbb{K}) \end{array}$$

(57) Abstract: In order to refine a method for defence against at least one attack made by means of differential power analysis on at least one hyperelliptic cryptosystem, in particular at least one hyperelliptic public key cryptosystem, which is given by at least one hyperelliptic curve (C) of any genus (g) over a finite field (K) in a first group, where the hyperelliptic curve (C) is given by at least one co-efficient, so that an essential contribution can be made towards an efficient and secure implementation of the hyperelliptic cryptosystem, it is proposed that the hyperelliptic curve (C) and/or at least one element of the first group, in particular at least one in particular reduced divisor and/or at least one intermediate result of a scalar multiplication, is randomised.

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